Conclusion:

1. According to the invention of this application, a distillation outside of the reaction zone is conducted, thus, the reaction temperature can be controlled regarding the catalyst activity. However, according to Okamoto et al. reference, a pervaporation within the reactor is conducted to removing water therefrom, thus, a vacuum is required and the temperature had to be determined by the bubble point of the water, being not favorable to the catalyst activity, which requires initial lower temperature and subsequent higher temperature; furthermore, the vacuum results in complicated operation surely.
2. According to the invention of this application, withdrawing as a side draw from the rectification column not only reduces the water content, but also reduces the bisphenol A as well as the heavy components; furthermore, the liquid water depleted fraction can save energy for cooling the same, thus being superior over the gaseous top fraction, which is an azeotrope of water and phenol with high water content, in the prior art; And the water depleted fraction is superior over the intermediate reaction effluent being recycled as such in Kwantes et al. reference too.
3. None of those four references disclosed or suggested the side draw in liquid from the rectification column distilling the reaction stream comprising bisphenol A being recycled to the reaction zone.

Finally, I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity or the application of any patent issued thereon.

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